



Calls from Boston Schools for Police Psychiatric Emergency Response: A Study of 911 Call Record Data from 2014 to 2018

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Abstract

This study examines patterns and trends in 911 calls from Boston public school addresses related to mental health and physical assaults/fights generated from 2014 to 2018. We analyzed 12,113 Boston Police Department (BPD) 911 call records from 102 Boston Public School addresses during the 2014–2018 school years. In addition, we separately analyzed calls coded by BPD as Emotionally Disturbed Person (“EDP”), indicating a psychiatric crisis was the primary reason for the call, as well as calls coded as “Fight,” “Assault,” or “Assault and battery.” Call frequency ranged from 0 to 277 per school each year. Although the annual average number of calls increased each school year over the 4-year period, this was primarily due to an increase in hang-ups and abandoned calls. Overall, 7.4% calls were coded as EDP and 6.5% were coded as assault/fight. Call volume was highest in the middle of the school day, with a median time of 12 pm. EDP calls were significantly earlier in the day than non-EDP calls, and the percentage of calls labeled as EDP decreased in frequency each day over the course of the week. There were more overall 911 calls, on average, per day in late spring than in other seasons. The frequency with which schools call upon police as emergency service providers for psychiatric crises indicates a need for additional school-based resources. Such resources may be most effective if they are allocated mid-day, responsive to changing student needs over the course of the week, and increased in spring.

Current national discussions about the role of police in schools and long-standing racial inequities in police response have increased the urgency to document the extent to which schools rely on calling 911 to access emergency services (Gibson & McGrady, 2022; Goldstein, 2020). Youth interaction with police is an important social determinant of health (Boyd et al., 2016) due to the potential adverse effects of such encounters (Geller et al., 2017; Jackson et al., 2019, 2020). In particular, youth of color have disproportionate contact with police and these encounters are more likely to result in criminal justice outcomes than for their white peers (Blad & Harwin, 2017; Hockenberry, 2022).

There are generally two pathways through which police enter school settings: an external pathway by which local police enter schools in response to calls for service (i.e., through calling 911) and an internal pathway by which police respond in the role of school-employed police or School Resource Officers (SROs) who are embedded on-site at school locations. The percentage of US students reporting the presence of security guards or police officers on school grounds rose from 64 to 71% between 2001 and 2017 (Musu et al., 2019); however, efforts to reduce the presence of police in schools have also become more pronounced in the last several years (Goldstein, 2020). As such, the role of on-site SROs has been well-documented in the literature (Eklund et al., 2018; James & McCallion, 2013; Maskaly et al., 2011; Wolfe et al., 2017), but little research exists on the extent to which members of the school community request emergency police services by calling 911. According to a 2015–16 survey of US public school principals, 47.4% of all US public schools (representing approximately 83,600 schools) reported at least one crime to police, with 21% of urban schools reporting 20 or more violent incidents (Musu et al., 2019).

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Existing studies of calls to police by schools have largely utilized surveys of students, teachers, and school administrators (Coon & Travis, 2012; Eklund et al., 2018; Maskaly et al., 2011), and relied upon retrospective account of events. Perhaps a more reliable source of data, however, are records of calls to 911, which offer a systematic way to investigate patterns and trends, as they provide time-stamped data on calls for service and include information on the nature and location of events. Because 911 calls for service often indicate the need for assistance in response to a distressing event at a given location, they may also suggest insufficient resources on-site to address needs during a crisis. For example, many schools have insufficient mental health resources (Foster, 2005; National Association of School Psychologists, 2021); in the absence of those resources, school staff may call on police to respond during mental health-related crises. Identifying patterns in 911 call data could allow school communities to make inferences about their crisis response needs and target resources to implement appropriate prevention and intervention services in order to effectively reduce reliance on calling 911.

Understanding the nature of 911 calls (e.g., the extent to which they are traffic-related, reflect disorderly conduct, stem from mental health needs) can also illuminate the type of resources needed to best respond to a particular emergency. One category of 911 call—mental health-related calls—may provide the greatest opportunity for reducing the incidence of police encounters with youth in schools by instead utilizing mental health professionals. In many instances, mental health professionals can provide emergency services to youth experiencing a behavioral or mental health-related crisis, and thereby reduce the risk of incidents resulting in criminal justice-related outcomes. In particular, school-based mental health providers have both the training and ongoing relationships with students that allow them to respond effectively to crises and support students over time.

From the perspective of responding officers, mental health-related calls can also be time-consuming. A recent national survey of 911 calls for service across nine law enforcement agencies found that while mental health-related calls account for a small percent of total calls, they consume a disproportionate amount of time and effort on the part of responding officers (Lum et al., 2021). For example, traffic-related calls and responses to disorderly conduct were the two most frequent categories of 911 calls (representing over 30% of all calls received across jurisdictions) and, on average, they required 43 and 23 min (respectively) to resolve. Mental health-related calls, though infrequent, required an average of 58 min for an officer to resolve. This indicates that in the time it takes to resolve a single mental health-related call, an officer may have been able to respond to multiple other calls (e.g., two disorderly conduct-related calls).

We use data from the Boston Public Schools (BPS) system to examine 911 emergency calls for police service made from school addresses during the 2014–2018 school years. BPS enrolls approximately 50,000 students in the district each year. Currently, students identify as 41.9% Hispanic/Latino, 31.5% Black/African American, 14.2% White, and 9.0% Asian (see ST1 for school demographic data). First, we identify time trends in phone calls from school addresses to 911, including by hour of day, day of week, month of the year, and over four years. Second, we examine patterns in a subset of call records categorized as being related to mental health and physical assaults, as these are call categories that may be under the purview of behavioral health departments in schools and can be indicative of a need for youth behavioral health services (including trauma support). Studies indicate that aggression can be a symptom of psychiatric disorders and have significant comorbidity with mood, anxiety, and substance use disorders (McLaughlin et al., 2012; Scott et al., 2020), making physical assault an important category to consider in understanding behavioral health response.

Importantly, data included in the current study were collected prior to the COVID-19 pandemic. Therefore, analyzing these historic call data provides us with an important benchmark on the landscape of 911 calls to school locations prior to changes in schooling and staffing that have taken place since the pandemic began in early 2020. Findings have implications for understanding and documenting the emergency needs of racially/ethnically diverse urban public schools and associated police response. A companion paper describes the researcher-practitioner partnership that was the foundation for this work (Morabito et al., under review).

Method

Procedures

Study data include Boston Police Department (BPD) 911 call records coming from 102 Boston Public School (BPS) addresses. BPS enrolls approximately 50,000 students in the district each year. Records extracted were from September through June for the 2014 to 2018 school years, reflecting the months that BPS schools were in session. Each 911 call record includes a timestamp, which we used to identify the time of day, day of the week, and month of the year that calls occurred.

Every time a call is made to 911 within the City of Boston, it is answered by a call-taker at the call center located at BPD Headquarters. Each call record includes a code provided by the call-taker to describe the primary nature of the call. The call-taker asks questions (except in cases of abandoned or hang-up calls) in order to ascertain the reason(s) for the call and enters a code into the 911 call

record log based on the caller's responses. Call-takers can only enter one code per call; therefore, they choose the code that reflects the most serious aspect of any given event, so that police are as prepared as possible upon response. Call-takers receive extensive training in asking questions of callers and selecting codes; however, there is variability in both the ways in which different call-takers obtain information and the selection of codes for similar calls. Of note, the current research used a call record database that included codes describing the events precipitating calls, but the database did not include information about people involved in the event or making the call.

In addition to describing overall trends using all calls, we focused on two specific types of call codes: (1) emotionally disturbed persons (coded as "EDP"), which is the code used by police to indicate that the incident primarily relates to a person with a mental health problem or psychiatric disorder; and (2) assault, assault and battery, and fight (which we collectively coded as "Assault"), which indicate a physical assault, fight, or attack. We selected these call codes because they may be indicative of events involving students as victims or perpetrators who might benefit from behavioral health services, rather than a criminal justice response.

Analyses

There are 125 schools in the BPS system; for the current study, we included 102 schools that remained at the same address from 2014 to 2018 and were the only school located at their respective address (i.e., there were six instances in which two BPS schools shared the same building and these were excluded from analyses). We included only calls directed to law enforcement (i.e., not calls directed to the fire department or emergency medical services). We excluded calls occurring before the first day of the school year in September and after the last day of the school year in June, as well as calls occurring on Saturdays, Sundays, and school holidays (as listed in the official BPS school calendar for each year).

Descriptive analyses were conducted to show the frequency and distribution of data by hour of day, day of the week, month of the year, and school year. These unadjusted data are displayed in Fig. 1 and are presented in Morabito et al. (under review). Because of the unequal distribution of school days across days of the week (i.e., there are more school holidays on Mondays and Fridays than in the middle of the week), we next divided the number of calls on each day of the week by the total number of school days on that day of the week. For example, in the 2017–18 school year, there were 34 Mondays when school was in session, so we divided the total number of Monday incidents by 34. This produced the average number of calls per school day for each day of the week.

We conducted a similar exercise to adjust for days that schools were in session by month (i.e., there are fewer school days in June and December than other months), which produced the average number of calls per school day for each month of the year. Subsequent analyses use these adjusted data.

We then conducted a series of regression analyses to estimate whether the average number of 911 calls differed across hour of day, day of week, and month of year. Negative binomial regressions were selected because 911 call records represent counts of individual calls in a given school and have substantial over-dispersion. To estimate whether calls differed by hour of day, we fit a regression of the following form:

$$\log(\text{Calls}_{it}) = \beta_0 + \sum_{t=7}^{11} \beta_t \text{Hour}_t + \sum_{t=13}^{16} \beta_t \text{Hour}_t + \beta_{\text{pre}} \text{Before7} + \beta_{\text{post}} \text{After5} + \varepsilon_{it}, \quad (1)$$

where Calls_{it} represented the average number of calls that occurred per day in school i and hour t . We included 11 separate indicator variables to represent 11 distinct times throughout the day. We included one indicator variable per hour for the hours beginning at 7 am through 11 am and one indicator variable per hour for the hours beginning at 1 pm through 4 pm. We also included an indicator for the hours before 7 am (Before7) and those after 5 pm (After5). The reference category was the one-hour window from 12 to 1 pm, and β_t represented the call rate per hour during each of these 11 time periods (t) relative to the rate from 12 to 1 pm. In all regressions, we presented β_t in the form of an incidence rate ratio (IRR) and we clustered standard errors at the school level.

To estimate whether call incidence varied by day of the week, we fit a similar regression model, where Calls_{id} represented the average number of daily calls in school i and day of week d , and we included a series of four indicator variables for each school day from Tuesday through Friday, so that the reference group was Mondays:

$$\log(\text{Calls}_{id}) = \beta_0 + \sum_{d=2}^5 \beta_d \text{Day}_d + \varepsilon_{id}. \quad (2)$$

Finally, we fit a third regression model for month of year, where Calls_{im} represented the average number of daily calls in school i and month m . In this model, we used June as the reference category and estimated daily call rates relative to June in each of the first nine months of the school year (September through May):

$$\log(\text{Calls}_{im}) = \beta_0 + \sum_{m=1}^9 \beta_m \text{Month}_m + \varepsilon_{im}. \quad (3)$$

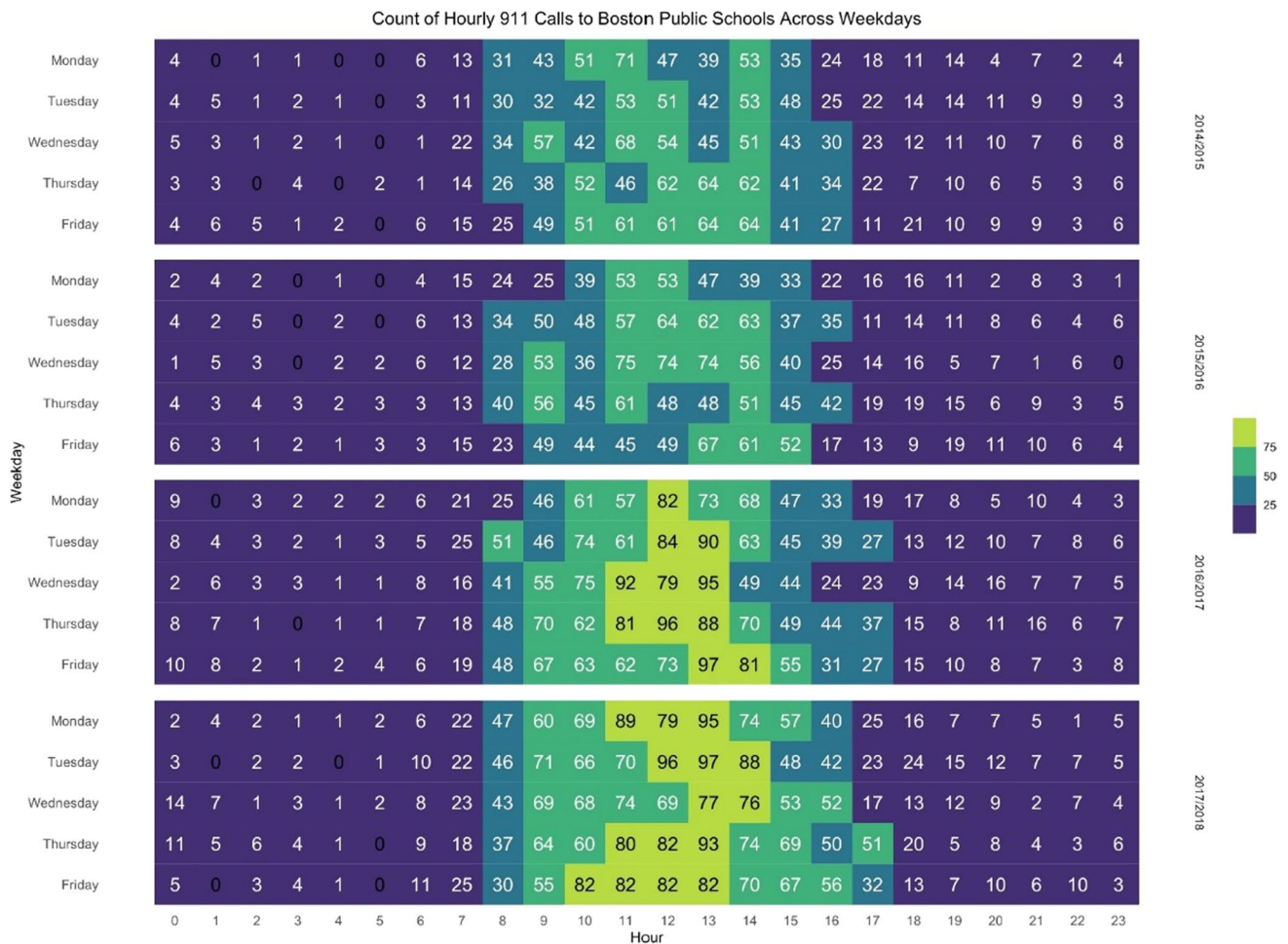


Fig. 1 Raw distribution of 911 calls, by hour of day, day of week, and year

In addition to estimating models (1) through (3) using the average daily number of all 911 calls, we also specifically estimated these temporal patterns calls related to EDP and assault.

Results

Type of Call

There were 12,113 calls for police service from the 102 Boston school addresses during the 2014–2018 academic years on school days (Monday through Friday) when schools were in session (i.e., not on break or vacation). Schools were in session approximately 180 days each year, meaning that there were an average of 16.8 calls per school day. Schools ranged in the number of total calls from their address—from 13 to 592 across the four academic years combined, and with a range of 0 to 277 calls in a given school per year, with a median of 18 calls per school each year. About one-sixth of

calls (1,955; 16.1%) were coded as abandoned, hang-up, or silent calls. We included these calls in analyses as they still resulted in some sort of follow-up from either the call-taker (e.g., attempting a call-back) or a visit from a police officer. Excluding these calls, there were 10,158 calls, ranging from 0 to 162 per school each year (median = 16).

The most frequent codes used to describe the 12,113 calls from school addresses were: investigation (of a person or setting; 37.8%); abandoned, hang-up, or silent call (16.1%); miscellaneous (signifying a reason for service not included in the available codes; 9.6%); emotionally disturbed person (EDP; 7.4%); assault or assault and battery or fight (collectively termed “Assault”; 6.5%); alarm (3.1%); larceny or robbery (3.1%); motor vehicle accident or traffic stop (2.8%); request for BPD/EMS assistance (2.4%); and disturbance (2.1%) (see Table 1).

Overall, the total number of calls from school addresses to 911 increased from the 2014–15 school year (2531) to the 2017–18 school year (3672). However, the increase was largely driven by an uptick in abandoned, hang-up, and

Table 1 Call-taker codes for the most common 911 calls from school addresses

Call-taker codes ¹	2014–15		2015–16		2016–17		2017–18	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Investigation	1075	42.5	1054	41.7	1141	33.7	1308	35.6
Abandoned, hang-up, silent call	157	6.2	177	7.0	811	24.0	810	22.1
Miscellaneous	192	7.6	153	6.1	381	11.3	442	12.0
Emotionally disturbed person	179	7.1	239	9.5	181	5.4	303	8.3
Assault or assault & battery or fight	166	6.6	213	8.4	189	5.6	221	6.0
Alarm	83	3.3	86	3.4	111	3.3	98	2.7
Larceny	143	5.6	84	3.3	82	2.4	71	1.9
Motor vehicle accident/ traffic stop	111	4.4	90	3.6	75	2.2	60	1.6
Request for BPD and/or EMS	76	3.0	72	2.8	77	2.3	70	1.9
Disturbance	65	2.6	73	2.9	60	1.8	56	1.5
Arrest report, suspect stop, violation report	65	2.6	42	1.7	52	1.8	44	1.2

¹Table includes all codes used more than 50 times in any of the four years

silent calls. These calls increased from 157 and 177 in the 2014–15 and 2015–16 school years, respectively (representing 6.2–7.0% of all calls), to 811 and 810 in the 2016–17 and 2017–18 school years (representing 22.1–24.0% of all calls). Without these abandoned, hang-up, and silent calls, the total number of calls would range from 2374 in the 2014–15 school year to 2862 in the 2017–18 school year.

Hour of Day

We present the distribution of calls across hour of day in Fig. 2. Panel A shows the distribution of all calls. The median hour of day across all calls was 12 pm, with almost half (44.4%) occurring between the hours of 11 am and 3 pm. Few calls (3.6%) occurred before the school day (i.e., between midnight and 7 am), and the frequency of calls gradually increased during the morning hours to reach a peak from 1 to 2 pm, when 11.7% of calls were made. Calls gradually decreased throughout the afternoon, though calls persisted after the school day typically ends: 12.1% of calls were made between 4 pm and midnight and 4.2% were made between 7 pm and midnight.

EDP calls nearly exclusively occurred during the school day (Fig. 2, Panel B). Only 1.2% of EDP calls occurred before 7 am or after 4 pm, compared to 15.7% for all 911 calls. Despite the heavier concentration of EDP calls during school hours, their evolution throughout the school day followed a similar pattern to all 911 calls, peaking only slightly earlier between 12 and 1 pm, when 16.1% of these calls were made. The average hour of day for EDP calls (11.72, SD = 2.22) was earlier than the average hour of day for non-EDP calls (12.42, SD = 3.90; $t = 5.29$, $p < 0.001$), driven both by the slightly earlier peak time and the lack of calls after the school day ends. In contrast, assault calls (Fig. 2, Panel C) were relatively flat throughout most of the school day and persisted into the

afternoon. For example, 10.1% of assault calls were made after 5 pm, compared to 8.4% of all calls. As a result, the average hour of day for assault calls (12.82, SD = 3.44) was later than the average hour of day for non-assault calls (12.33, SD = 3.82; $t = -3.49$, $p < 0.001$).

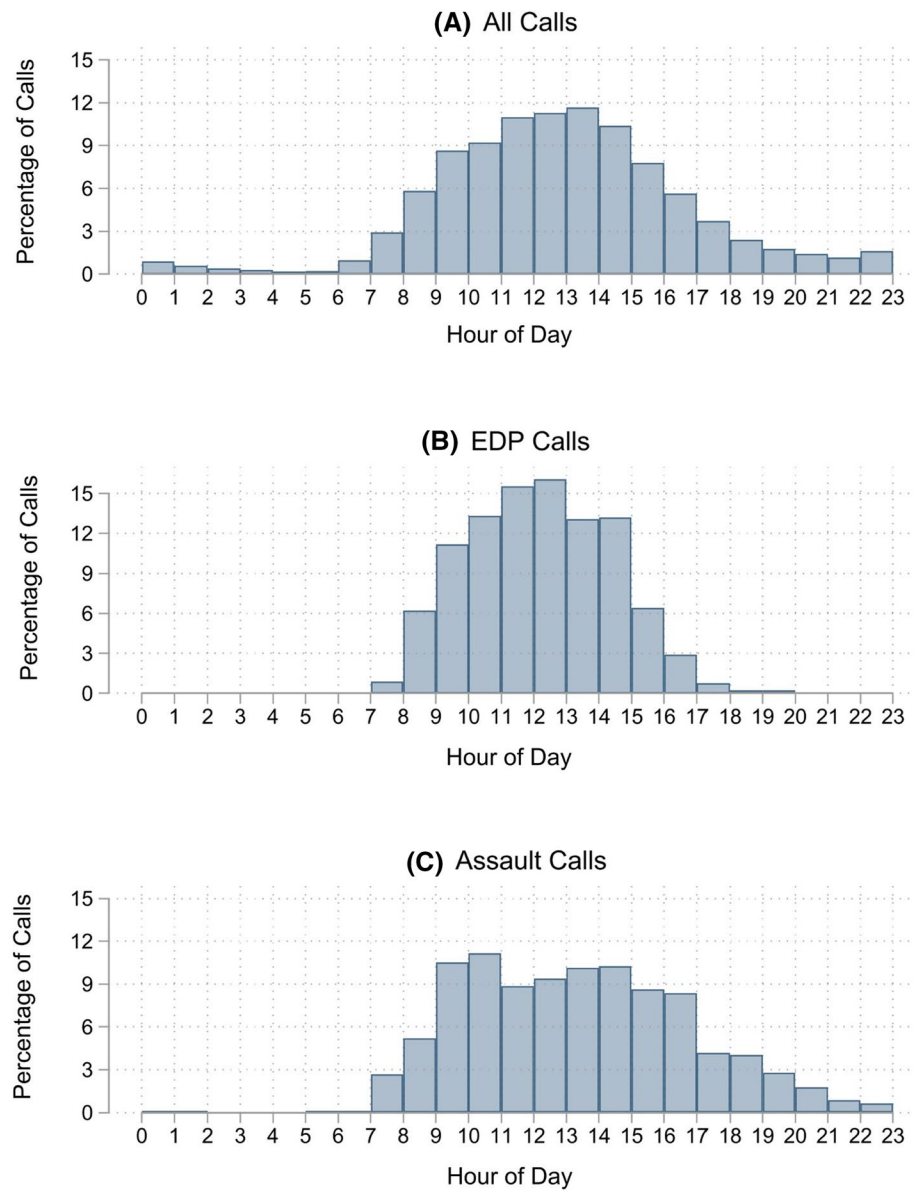
Regression results in Table 2 (Panel A) estimate the likelihood of calls occurring throughout the day, relative to the likelihood that they occur during the one-hour window from 12 to 1 pm. Column 1 shows results for all 911 calls. Compared to the one-hour window beginning at 12 pm, there were no statistically significant differences in call likelihood at the windows starting at 11 am or 1 pm. Before 11 am, hourly call rates were lower than at noon, ranging from 15% less likely (at 10 am) to 76% less likely (at 7 am). Before 7 am, calls only occurred at 10% the rate at which they occurred at noon. There were slightly smaller decreases after 1 pm, ranging from 10% less likely (at 2 pm) to 41% less likely (at 4 pm). After 5 pm, calls occurred at 25% the rate compared to 12 pm.

Column 2 presents results for EDP calls, which had a steeper drop-off earlier in the day and later in the day. For example, EDP calls at 7 am occurred at 6% the rate at which they occurred at 12 pm. No EDP calls occurred before 7 am. After 5 pm, EDP calls only occurred at 2% the rate at which they occurred at 12 pm. In contrast, assault calls were more stable throughout the day and persisted later into the evening. Relative to assault calls from 12 to 1 pm, there were no statistically significant differences during any of the one-hour windows between 9 am and 4 pm. After 5 pm, assault calls occurred at roughly 32% the rate compared to 12 to 1 pm.

Day of the Week

Calls for service were relatively stable across days of the week, with a slight uptick as the week progressed from

Fig. 2 Distribution of 911 calls, by hour of day



Monday to Friday. Figure 3 presents the mean number of calls per school day, adjusted for the days schools were in session over this time period. Panel A shows that the average daily rate of all 911 calls increased throughout the week. On an average Monday, 16.0 calls were made, compared to 17.9 on an average Friday.

The evolution over the course of the school week is less obvious when examining EDP calls (Panel B) and assault calls (Panel C). The number of EDP calls decreased at the end of the week, from an average of 1.5 calls per day on Mondays to 1.0 calls per day on Fridays. In contrast, the number of assault calls increased at the end of the week, from an average of 1.0 calls per day on Mondays to an average of 1.4 calls per day on Fridays.

Regression results at the school-by-hour level (Table 2, Panel B) confirm these trends. Compared to Mondays, there was no statistically significant difference in all 911 calls on Tuesdays or Wednesdays. However, compared to Mondays, calls were 6% and 10% more likely to occur on Thursdays and Fridays, respectively. EDP calls were stable throughout the week, except for Fridays, when they were 34% less likely to occur. assault calls, on the other hand, increased by 40% on Fridays, although they too remained otherwise stable throughout the week.

Month of the Year

Finally, we examined the distribution of calls across month of the school year. Figure 4 presents the mean number

Table 2 Relative rates of 911 calls, by hour of day, day of week, and year

	All calls		EDP calls		Assault calls	
	IRR	SE	IRR	SE	IRR	SE
<i>Panel A: hour of day</i>						
Before 7am	0.102***	0.010	0.000***	0.000	0.021***	0.011
7am	0.355***	0.030	0.056***	0.020	0.326***	0.102
8am	0.548***	0.029	0.394***	0.089	0.536**	0.127
9am	0.800***	0.041	0.708*	0.113	1.004	0.179
10am	0.840***	0.040	0.843	0.120	1.146	0.197
11am	0.964	0.047	0.918	0.132	0.884	0.142
1 pm	0.997	0.047	0.775*	0.093	0.951	0.181
2 pm	0.899*	0.048	0.795	0.112	0.959	0.159
3 pm	0.725***	0.050	0.433***	0.081	0.888	0.167
4 pm	0.592***	0.050	0.189***	0.042	0.970	0.169
After 4 pm	0.253***	0.020	0.018***	0.006	0.317***	0.056
Intercept	3.873***	0.337	0.406***	0.065	0.218***	0.034
<i>N</i> (hour-by-school cells)	2448		2448		2448	
<i>Panel B: day of week</i>						
Tuesday	1.011	0.034	0.957	0.082	1.005	0.116
Wednesday	1.021	0.031	0.840	0.104	1.153	0.130
Thursday	1.065*	0.032	0.997	0.106	1.013	0.116
Friday	1.098**	0.037	0.738**	0.074	1.464***	0.136
Intercept	0.167***	0.014	0.014***	0.003	0.010***	0.001
<i>N</i> (day-by-school cells)	510		510		510	
<i>Panel C: month of year</i>						
September	0.684***	0.042	0.460***	0.084	0.598*	0.131
October	0.730***	0.045	0.752*	0.094	0.760	0.195
November	0.711***	0.043	0.786	0.108	0.724	0.133
December	0.764***	0.045	0.756	0.124	1.055	0.206
January	0.616***	0.036	0.597**	0.108	0.720	0.151
February	0.663***	0.039	0.631**	0.098	0.719	0.138
March	0.698***	0.036	0.667*	0.124	0.962	0.168
April	0.749***	0.035	0.848	0.119	0.816	0.142
May	0.793***	0.032	0.866	0.103	1.003	0.155
Intercept	0.262***	0.020	0.019***	0.004	0.014***	0.003
<i>N</i> (day-by-month cells)	1020		1020		1020	

Each panel contains three separate negative binomial regression results (for All Calls, EDP Calls, and Assault Calls). Panel A presents results for average annual calls per school-by-hour, relative to 12 pm. Panel B presents average daily calls per school, relative to Mondays. Panel C presents average daily calls per school relative to October. All results are presented as incidence rate ratios (IRRs), relative to the reference category. Standard errors are clustered at the school level

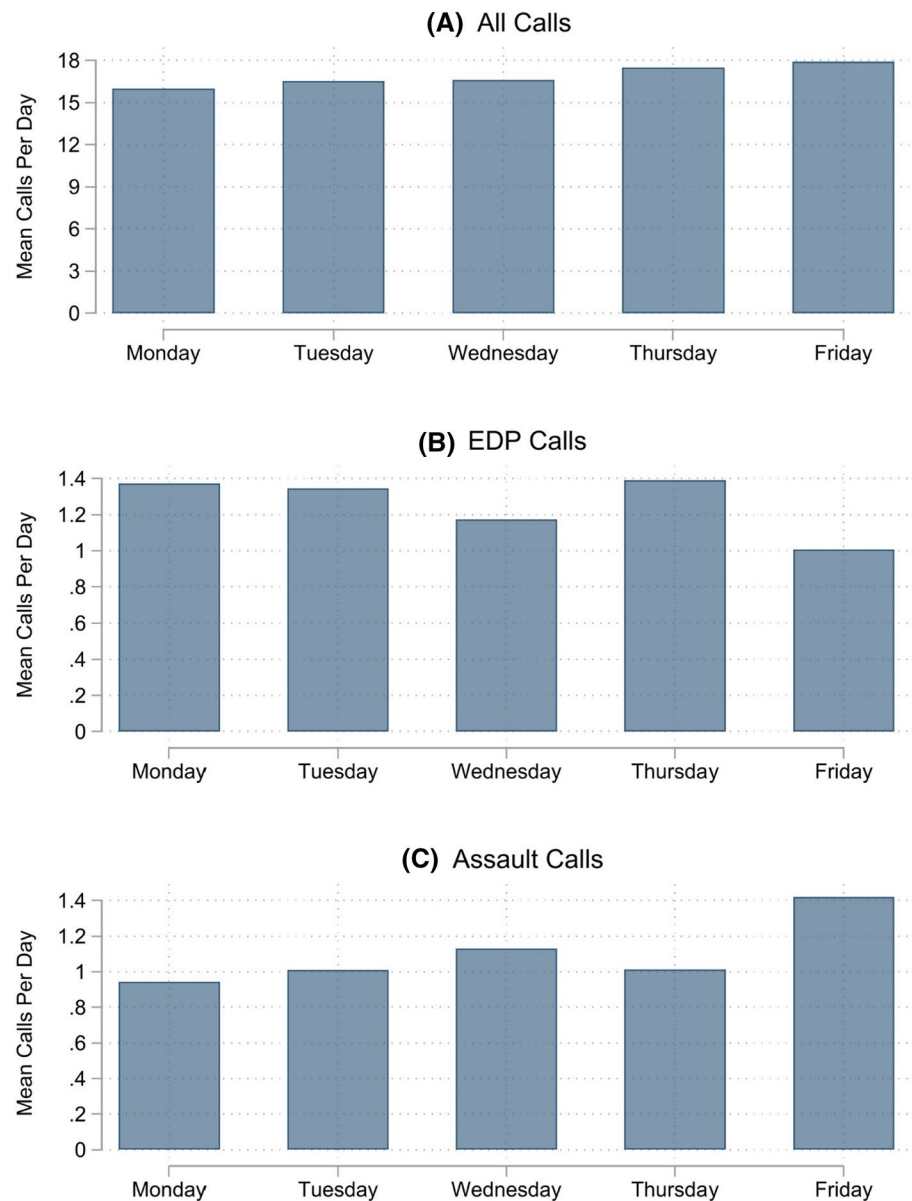
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

of daily calls per month, adjusted for the number of days schools were in session during each month. Panel A shows that there were more daily calls on average in the month of June (an average of 23.1 calls per day that school was in session) than any other month, and there were fewer calls on average per day in January (an average of 13.7 calls per day that school was in session). EDP and assault calls followed a similar pattern to this overall trend, with increases at the end of the school year and lower call rates in January and February. However, EDP calls and assault calls were both

notably lower in September, which was not the case for total calls overall.

Regression results at the school-by-month level (Table 2, Panel C) confirm these overall trends. Compared to daily call rates in June, daily calls rates were 21–38% lower in other months, particularly in January and February, when calls were 38% and 34% lower (respectively) than in June. EDP calls followed a similar pattern, with significantly lower daily call rates in January and February, when calls were 40% and 37% lower, respectively, than in June. However, EDP calls occurred at the

Fig. 3 Distribution of average daily 911 calls, by day of the week



lowest rate in September (54% lower than in June). In contrast, assault calls were more stable throughout the school year, with the only statistically significant difference occurring in September, when daily call rates were 40% lower than in June.

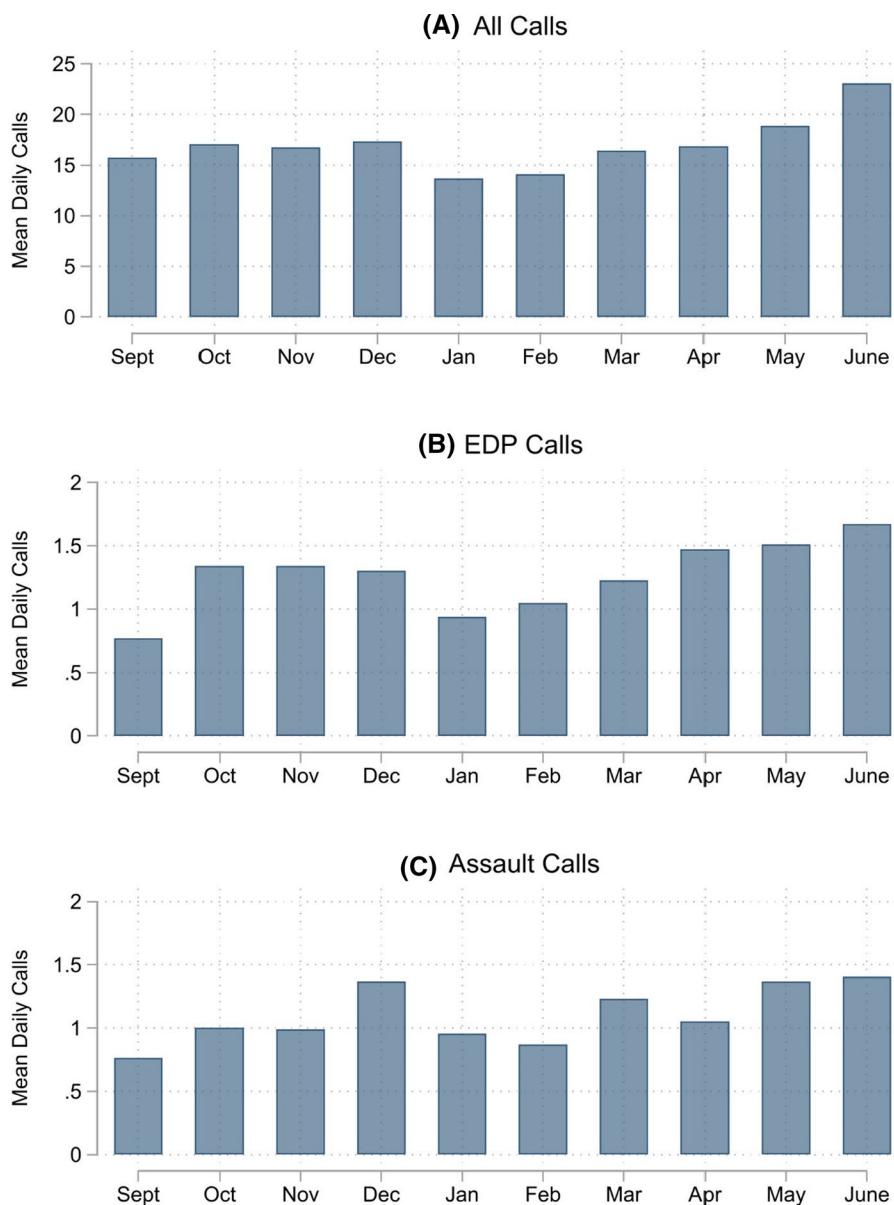
Discussion

Calls to 911 from Boston schools during the 2014–18 school years indicate the frequency with which members of Boston school communities called for emergency assistance from the police. With about 3000 calls per year on days when school was in session and approximately 50,000 total students in the district during the years of this study, the

annual rate of calls to 911 was approximately six calls per 100 students.

EDP and assault codes were selected as the focus of this study because they have the clearest implications for understanding mental and behavioral distress in schools and have potential for non-police response. In addition, there is a well-established relationship between aggressive behavior, behavioral disorders and justice involvement among youth, making these calls an important target for intervention (Hoeve et al., 2013; McLaughlin et al., 2012). From 2014 to 2018, 7.4% of calls to 911 were coded as EDP and 6.5% were coded as assault. Together, these reflect about 14% of all calls for police services originating from schools, similar to rates of police response to psychiatric calls among adults (Cordner, 2006; White et al., 2006).

Fig. 4 Distribution of average daily 911 calls, by month of the year



In examining the frequency of calls by time of day, we found that schools' calls for service (total calls, as well as EDP and assault calls) peaked around noon. This is earlier than has been found in other studies that examined records related to youth emergency mental health need and aggression. Specifically, studies of juvenile offending (Ali et al., 2012; Newman et al., 2000) and pediatric psychiatric emergency department (ED) visits (Goldstein et al., 2005) indicate that community use of emergency services increases in late afternoon and evening, generally after school has ended. The middle of the day, when our data show heightened calls for police services in schools, may coincide with the timing of unstructured and unmonitored activities, including lunch break and recess, making our findings broadly consistent with research on school safety and bullying that finds that

students identify places with low levels of adult supervision (specifically the lunchroom/cafeteria and playground/school yard) as the most unsafe places in schools (Vaillancourt et al., 2010). These results suggest that it may be important for schools to increase their staffing during these times of day to support students.

In examining call frequency by day of the week, we found that EDP calls decreased at the end of the week, while assault-related calls increased. Some prior studies of pediatric psychiatric emergency department visits find that visit frequency is highest mid-week (Goldstein et al., 2005) or increases early in the week and then decreases, with the lowest rates on Fridays (Holder et al., 2017). Although the reasons for declining EDP calls over the course of the week are unclear, one possibility is that early-week EDP calls reflect

distress originating at home that is reported on return to school. Indeed, one study found that rates of calls for verified physical child abuse are higher at the beginning than the end of the week (Bright et al., 2019). In contrast, increases in assault calls may reflect escalating conflict between peers over the course of the week.

In terms of trends in calls across months of the year, studies of seasonal trends in pediatric psychiatric ED visits show visits to the ED are higher during the school year than the summer (Goldstein et al., 2005). However, within a given school year, visits tend to be more frequent in the fall (September through November) and spring (March through May) than during the winter (December through February) (Bright et al., 2019; Goldstein et al., 2005; Oblath et al., 2019). In the current study, we found low numbers of EDP and assault calls in September, which may reflect a “honeymoon” period when students are starting the school year and still adjusting to new teachers and routines. We also found that 911 calls related to EDPs and assaults increased in the final months of the year, which may relate to students struggling with the transition into summer. This increase may also reflect staffing factors, such as reductions in teacher preparation time, increased use of substitute teachers during standardized testing periods, and perhaps the tendency for school staff to enact fewer routines and structures in the final weeks of school (McCurdy et al., 2003).

It is worth noting that 911 records are brief and can be imprecise. As Klinger and Bridges (1997) note, the only information call-takers receive are subjective observations and descriptions provided by callers, and the call-taker must select a code that they believe represents the primary and most pressing concern. This means that while EDP calls are only labeled as such when mental health is perceived by the call-taker to be the primary reason for the call, it is highly likely that there are many more calls related to mental health than those just labeled as EDP. Indeed, officers report that mental health is a component—even if not the primary issue—in many calls for service to which they respond that are coded as something else (e.g., “investigation,” “family trouble,” Wood et al., 2021). Finally, while more complete than surveys, 911 calls still miss some police interactions (Klinger & Bridges, 1997). For example, students may report victimization after school hours in their own communities. Call records also do not capture incidents viewed by police or shared directly with police who are located in school buildings for other reasons. For all the above reasons, it is possible—if not highly likely—that 911 call records as utilized here significantly under-estimate the extent to which police are involved in responding to the mental and behavioral health needs of students.

The current study has a number of other limitations. First, we used BPS addresses but cannot identify whether calls involved students, nor do we have access to important

information about involved parties, such as gender and race/ethnicity. Second, we are unable to determine if multiple calls from the same location at around the same time reflected unique incidents or if they were repeat calls for the same incident. For example, we looked specifically among call records during the 2017–18 school year and found that, among those 4129 call records, 248 (6.0%) occurred within 15 min of another call from the same school address, which could potentially reflect repeat calls for the same incident. This relatively small percent of calls from the same address within a short time period suggests that it is likely that most of our records reflect unique calls. However, we also are not able to determine if multiple calls were made about the same individual over time.

Despite these limitations, the current study provides new information about calls from schools for emergency response services from police. Identifying times when calls increase for emergency response services may provide key information about when school communities have the greatest need for support. By increasing on-site support for students at the appropriate times, schools may be able to reduce the need for emergency calls to police, while providing access to other, more appropriate, services such as mental health services. Although the current study is about calls for police service, we interpret these findings as providing information about the needs of students within schools. Results suggest that Boston schools, like schools in other large urban districts, need more systemic prevention and student support resources (Pearrow et al., 2020). Nationwide, schools are among the primary providers of mental health services for youth (Duong et al., 2021; Green et al., 2013) and BPS already partners with community-based agencies for this purpose (Pearrow et al., 2016, 2021). In considering how to distribute additional resources to maximally prevent the need for emergency calls for service, results suggest that resources may be most effective if they are allocated mid-day, if they are responsive to changes in student needs over the course of the week, and if they increase in late spring.

Results also highlight several areas for future study. First, more information is needed on the events that precipitate calls to 911. Second, 911 call records cannot provide insight into the outcomes of calls. To better understand both events that precipitated calls and the outcomes of calls, our research team conducted a parallel analysis of incident report narratives, which are far more burdensome to analyze but provide rich data on the nature of events and police interactions. Third, future analyses will include examining differences across schools to provide information about which schools (e.g., taking into account grade levels, racial/ethnic composition, locations, staffing resources) are more, and less, likely to use 911. Finally, there is a need for more research on how community-based health and mental health providers can effectively collaborate with schools to address the mental

health needs of youth (Muller et al., 2021) and provide alternatives to calling police (Lum et al., 2021). One promising model is the STAR program in Denver, where early results suggest that the crime rate was reduced in part because community responders provided health care to individuals in mental health or substance abuse crises without recording the incidents as criminal behavior (Dee & Pyne, 2022). Within schools, Bohnenkamp and colleagues (2021) developed and tested a comprehensive multi-tiered crisis prevention and response model, which integrated community partners. They found that schools implementing the model reported greater improvements in disciplinary response and juvenile justice referrals than comparison schools. These studies suggest that mental health providers in schools and communities can advocate for increased access to behavioral health services and work together to identify practices that have the potential to address youth needs more effectively without an emergency response.

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Declarations

Conflict of interest The authors have no potential conflicts of interest to disclose. Analyses used de-identified administrative records; researchers did not have access to any identifiable information about individuals.

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